Fact Sheets

SRS

Mixed and Hazardous Waste Treatment, Disposal and Shipping at the Savannah River Site

At the Savannah River Site (SRS), waste was generated as a result of the manufacturing of plutonium, tritium and other nuclear materials required to support our national defense. SRS manages high-level waste, low-level waste, hazardous waste, mixed waste, transuranic waste and sanitary (non-radioactive, non-hazardous) waste.

Hazardous waste and mixed waste

The Resource Conservation and Recovery Act (RCRA) defines hazardous waste as any toxic, corrosive, reactive of ignitable material that could damage the environment or negatively affect human health. Some examples of SRS hazardous waste include oils, solvents, acids, metals and pesticides.

Mixed Low Level Waste (MLLW) is waste that is both radioactive and hazardous. This type of waste is subject to regulations governing both waste types.

Hazardous wastes and mixed (containing both hazardous and radioactive components) wastes were stored on site in RCRA-permitted facilities until appropriate treatment facilities became available. Both waste types are now being sent off site for treatment and disposal.

A new facility, the Mixed Waste Processing Facility, is currently in the construction phase and slated to become operational in FY02. This facility will allow the sorting and segregation of mixed low level radioactive waste. The waste will be removed from its original container, sorted into like waste forms and repackaged into a new waste container. The repackaged waste will then go for further treatment and/or disposal.

Shipping of Mixed Low Level Waste

SRS waste management facilities are not suitable for treatment and disposal of all types of waste; therefore, commercial vendors and other DOE facility capabilities are being utilized to properly manage the current waste inventory.

Mixed Low Level Waste (MLLW) residues that have been stabilized in cement are being disposed at the commercial Envirocare facility in Utah. Some MLLW is being treated at Material & Energy Corporation (M&EC) in Oak Ridge, Tennessee, prior to shipment to Envirocare for disposal.

MLLW shipment to Envirocare

On August 8, 2001, the first shipment of treated mixed low-level waste left SRS for disposal at Envirocare of Utah, and shipments continue. The MLLW contained stabilized ash and blowdown from operations at SRS's Consolidated Incineration Facility. A total of 24 shipment (265 cubic meters were shipped during FY2001.

MLLW to Material & Energy Corporation

MLLW being shipped to Material & Energy Corp. (M&EC) consists of spent HEPA filters from SRS incineration processes. This waste is shipped in B-25 containers (90 cu. ft.) and is macroencapsulated by M&EC followed by disposal at the Envirocare facility. Eight shipments of 10 B-25 boxes each are planned.

On September 27, 2001, two shipments (66 cubic meters) of this material were sent to M&EC for macroencapsulation in cement. This first shipment of MLLW to an offsite treatment facility opens the path for treatment and disposal of MLLW currently in storage.

To ensure acceptance from Material & Energy Corporation, SRS tied in to a broad-spectrum mixed waste contract previously established by the Department of Energy and managed by Bechtel Jacobs. SRS submitted waste profiles for each waste stream which were reviewed and approved by M&EC. M&EC was required to submit waste profiles to Envirocare for the treated mixed waste disposal.

Ensuring Safe Shipment

For both of these kinds of shipments, all transportation is provided by licensed commercial haulers. SRS notifies Envirocare when the shipment is leaving SRS and when to expect arrival.

Specific routes are determined by the contracted transporter, and comply with Department of Transportation (DOT) regulations.

All shipments are reviewed and approved by SRS Department of Transportation (DOT) trained personnel to ensure DOT compliance. All waste shipments are transported in strong, tight packages and meet the DOT classification of Low Specific Activity material.

Waste minimization program

SRS has an active waste minimization program to reduce volume and/or avoid production of all waste types generated at the site. Efforts to reduce or eliminate waste before it is generated include process modification, use of alternative process material, recycling and reuse. Efforts to reduce waste after it has been generated include segregation of non-radioactive and non-toxic materials and waste compaction.